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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,220	02/09/2004	Shin Takanezawa	TSUK0008	6738
24203	7590	01/07/2005	EXAMINER	
GRIFFIN & SZIPL, PC SUITE PH-1 2300 NINTH STREET, SOUTH ARLINGTON, VA 22204			SELLERS, ROBERT E	
			ART UNIT	PAPER NUMBER
			1712	

DATE MAILED: 01/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/773,220

Applicant(s)

TAKANEZAWA ET AL.

Examiner

Robert Sellers

Art Unit

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) 6-10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/01/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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1. The election with traverse of Group I in the reply filed on December 1, 2004 is acknowledged. The traversal is on the grounds that the claims of the different groups are so similar that there would be no burden to search them together. This is not found persuasive because the different classifications of the groups confirms an undue search burden.

2. The insulating film of claims 6-8 and the processes for producing a multilayer wiring board of claims 9 and 10 are distinct inventions for the reasons espoused in the restriction requirement mailed November 8, 2004 (pages 2-3, paragraphs 2 and 3) regardless of whether they are dependent upon claim 1. Based on the rulings in In re Ochiai, 37 USPQ2d 1127 (Federal Circuit 1995) and In re Brouwer, USPQ2d 1663 (Federal Circuit 1996) and the Official Gazette notice dated March 26, 1996 (1184 O.G. 86), if the claims directed to the composition are found to be allowable, only claims 9 and 10 directed to processes of using the composition can be rejoined if they include all the limitations of the composition. Claims 6-8 are not eligible to be rejoined due to their denotation of another product, i.e. an insulating film.

The requirement is still deemed proper and is therefore made FINAL.

3. Claims 6-10 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to nonelected inventions, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on December 1, 2004.

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tobisawa et al. Patent No. 6,486,242 in view of (Japanese Patent No. 2000-256537 and Inagaki et al. Patent No. 5,837,155) along with Japanese Patent No. 2001-247657 and Japanese Patent No. 2002-348353.

4. Tobisawa et al. discloses a composition for preparing a laminate for a printed circuit board (col. 6, lines 5-7) comprising a biphenyl-modified novolak epoxy resin (col. 2, lines 35-39 and col. 3, lines 1-17), a triazine-modified novolak resin, a phosphorus compound (col. 5, lines 30-33) such as 9,10-dihydro-9-oxa-10-phosphaphenanthrene-10-oxide and "other necessary additives within the range satisfying the purpose of the present invention (col. 5, lines 42-43)."

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5. The claimed carboxylic acid-modified acrylonitrile butadiene rubber particles (B) are not recited.

6. Japanese '537 sets forth an epoxy resin composition used as an insulating layer in a printed wiring board (translation, page 5, paragraphs 23 and 24) containing a phenolic-hydroxyl group-containing phosphorus compound (page 3, paragraphs 11 and 12) and crosslinked carboxyl group-containing butadiene-acrylonitrile rubber particles (page 3, paragraphs 14 and 15) such as XER-91 (pages 6-7, paragraph 29, deemed to be suitable on page 8, lines 13-16 of the specification).

7. Inagaki et al. espouses an insulating resin composition for a printed circuit board (col. 9, lines 60-66) derived from an epoxy resin and fine rubber particles such as XER-91 (col. 9, lines 3-9 and 32-33).

8. It would have been obvious to employ the XER-91 carboxyl group-containing butadiene-acrylonitrile rubber particles of Japanese '537 and Inagaki et al. as an additive of Tobisawa et al. in order to improve the thermal and water resistance and electrical property as well as maintaining the glass transition temperature after molding and thus the heat strength (Japanese '537, paragraph 10, lines 6-8 and paragraph 15, lines 5-8), along with enhancing the adhesion to copper foil and increasing the shock resistance to withstand cutting (Inagaki et al., col. 9, lines 3-9).

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9. The triazine-modified novolak resin of Tobisawa et al. is not prepared from cresol as claimed. Japanese '657 is directed to an electric laminate for a printed circuit board (page 6, paragraph 39) prepared from an epoxy resin and a triazine-containing novolak resin produced by the reaction of a triazine compound, a phenol such as cresol, and an aldehyde (page 4, paragraphs 19 and 21).

10. It would have been obvious to synthesize the triazine-modified novolak resin of Tobisawa et al. using the cresol of Japanese '657 as the phenol reactant based on the recognized equivalence between cresol and phenol as suitable reactants for the formation thereof.

11. The 9,10-dihydro-9-oxa-10-phosphaphenanthrene-10-oxide of Tobisawa et al. does not contain phenolic hydroxyl groups as claimed. Japanese '537 is described in paragraph 6 hereinabove. It would have been obvious to use the phenolic-hydroxyl group-containing phosphorus compound of Japanese '537 as the phosphorus compound of Tobisawa et al. in order to improve the thermal and water resistance and fire retardancy (Japanese '537, page 3, paragraph 11).

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12. The claimed inorganic filler is not recited. Japanese '353 is drawn to an electrical insulation material (page 1, paragraph 2) obtained from an epoxy resin, a cresol novolak curing agent (page 5, paragraph 26) and a spherical silica filler (pages 5-6, paragraph 31 and page 6, paragraph 34).

13. It would have been obvious to incorporate the spherical silica filler of Japanese '353 as an additive in Tobisawa et al. in order to reduce the coefficient of linear expansion, thereby lowering the stress, and to minimize the hygroscopy to optimize the thermal resistance.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

14. The European patent reports a resin system (page 4, line 43 to page 5, line 46) utilized as a laminate in a printed circuit board (page 4, lines 38-40) obtained from an epoxy resin wherein the claimed biphenyl-containing novolak epoxy resin is not recited, a phosphorus-containing compound, a triazine modified cresol novolak and an inorganic filler without the claimed carboxylic acid-modified acrylonitrile butadiene rubber particles.

(571) 272-1093 (Fax no. (703) 872-9306)
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rs 1/5/04



ROBERT E.L. SELLERS
PRIMARY EXAMINER